Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the Editor

It is not the time to relax yet: masks are still needed for the Omicron variant of SARS-CoV-2

Since the first case of Coronavirus disease 2019 (COVID-19) was found in Wuhan, China, on December 31, 2019, this pandemic went on to affect more than 267 million people worldwide.[1] Although the Delta variant remains the leading cause of infection, the Omicron (B.1.1.529) variant of concern, which is associated with enhanced transmissibility and evasion to vaccine-induced immunity, now emerged as a new public health threat.[2,3]

Currently, 25.7% of fully vaccinated Americans received their boosters as of December 2021.[4] However, alterations of 37 amino acids in the Spike (S) protein in Omicron variant may have rendered it with resistance and blunts the potency of neutralizing antibodies.[5] A recent study by *Cele* et al. from Africa Health Research Institute has indicated the Omicron escapes antibody neutralization elicited by the Pfizer BNT162b2 mRNA vaccine by 41-fold in comparison to ancestral D614G in FRNT50 assay.[6] Also, to investigate immune evasion mediated by Omicron, researchers from Vir Biotechnology, Switzerland, have compared the variant's neutralizing ability in all existing vaccines (mRNA-1273, BNT162b2, AZD1222, Ad26.COV2.S, SputnikV, BBIBP-CorV) using plasma obtained from COVID-19 convalescent or vaccinated individuals. It has found mRNA-1273 (Moderna) exhibits highest neutralization of Omicron followed by BNT162b2 (Pfizer), with Sputnik V (Russia) showing diminished to non-existent neutralization.[7] Meanwhile, another recent study found that in comparison to Delta variant, Omicron replicates and infects 70 times faster in human bronchus.[8] Although the vaccines protect people well against severe progression of the disease, its effectiveness on prevention of the new Omicron variant remains under investigation. Therefore, non-pharmaceutical interventions (NPIs), such as mask-wearing, remain essential to mitigate the COVID-19 infection. Recently, a 6-month-long cluster-randomized trial has revealed intervention measures to make people wear surgical mask correctly can reduce the prevalence ratio (PR) for COVID by 11%; the outcome has most significant impact for age group>60 as it successfully reduced the PR by 35%.[9] According to a recent published meta-analysis, mask-wearing reduces the risk of COVID-19 infection by 81%.[10] These studies indicate that mask provides an additional low-cost and easy-to-implement physical barrier to effectively minimize the infection risk of severe acute respiratory coronavirus 2.

In conclusion, while it is important to continue promoting the vaccination among population in developing countries and underserved areas, mask-wearing and other NPIs are still effective preventive methods with low cost and easy access in current COVID-19 pandemic, especially with the emergence of the more infectious Omicron variant.

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